Complete Summary

GUIDELINE TITLE

Care of the patient with primary angle closure glaucoma.

BIBLIOGRAPHIC SOURCE(S)

American Optometric Association. Care of the patient with primary angle closure glaucoma. 2nd ed. St. Louis (MO): American Optometric Association; 1997. 54 p. (Optometric clinical practice guideline; no. 5). [121 references]

GUIDELINE STATUS

This is the current release of the guideline.

According to the guideline developer, this guideline has been reviewed on a biannual basis and is considered to be current as of 2001. This review process involves updated literature searches of electronic databases and expert panel review of new evidence that has emerged since the original publication date.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Primary angle closure glaucoma

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management

CLINICAL SPECIALTY

Optometry

INTENDED USERS

Health Plans
Optometrists

GUIDELINE OBJECTIVE(S)

- To identify patients in whom primary angle closure glaucoma (ACG) is present or who are at risk of developing primary ACG
- To accurately diagnose primary ACG
- To manage a patient who has an acute attack of primary ACG
- To monitor and manage, as indicated, patients with intermittent or chronic forms of primary ACG
- To develop criteria for referral to the patient's primary care physician or other health care practitioner when management options dictate
- To improve the quality of care rendered to patients with primary ACG
- To minimize the adverse effects of primary ACG and its management
- To inform and educate patients and other health care practitioners about the visual complications of primary ACG and the availability of treatment

TARGET POPULATION

Individuals in whom primary angle closure glaucoma (ACG) is present or who are at risk of developing primary ACG

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis of Primary Angle Closure Glaucoma

1. Patient History
2. Ocular Examination
3. Provocative Testing
4. Assessment and Diagnosis

Management of Acute Primary Angle Closure Glaucoma

1. Available Treatment Options
    - Medical (Pharmaceutical)
    - Corneal Indentation
    - Laser Treatment
    - Surgery
2. Patient Education
3. Follow-Up
4. Management of Patients with Severe, Irreversible Vision Loss

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches using the National Library of Medicine's Medline database and the VisionNet database.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not stated

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not applicable

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost anaylses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The Reference Guide for Clinicians was reviewed by the American Optometric Association (AOA) Clinical Guidelines Coordinating Committee and approved by the AOA Board of Trustees.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Summarized by the National Guideline Clearinghouse (NGC):

Diagnosis of Primary Angle Closure Glaucoma

Evaluation of a patient for angle closure glaucoma (ACG) should begin with the assumption that any of the four types of primary ACG could be present. Although the identification of acute primary ACG rarely constitutes a diagnostic dilemma, other types of ACG may escape detection if a thorough evaluation is not done.

The components of patient care listed below are described in greater detail in the guideline document.

1. Patient History
2. Ocular Examination, including by not limited to the following procedures:
    - Refraction (unless the patient is in acute angle closure)
    - Biomicroscopic evaluation of the anterior segment
    - Tonometry
    - Gonioscopy
    - Stereoscopic evaluation of the optic nerve
    - Baseline photographs of the optic nerve
    - Baseline visual fields
3. Provocative Testing
    - Dark room test
    - Prone test
    - Prone dark room test
    - Mydriatic test

Management of Acute Primary Angle Closure Glaucoma

The extent to which an optometrist can provide treatment for angle closure glaucoma may vary depending on the state's scope of practice laws and regulations and the individuals optometrist's certification. Care of the patient with primary ACG may require referral for consultation with or treatment by the patient's primary care physician or an ophthalmologist for services outside the optometrist's scope of practice. The optometrist may participate in the co-management of the patient, including preoperative and postoperative care when appropriate.

Available Treatment Options

- Medical (Pharmaceutical) topical agents include miotics (pilocarpine), beta-adrenergic blockers, an alpha-adrenergic agonist (apraclonidine), and steroids. Oral agents that may be used are carbonic anhydrase inhibitors (CAIs) and hyperosmotics. Hyperosmotics and CAIs may also be administered intravenously. Refer to the guideline document for recommendations regarding choice of agent and drug dosage.
- Corneal Indentation
- Laser Treatment
- Surgery

Recommended management protocol

Immediately after the diagnosis of acute primary angle closure, the patient should receive the following medications, providing no contraindications exist:

- 500 mg acetazolamide orally
- One drop of 0.5% timolol
- One drop of 2% pilocarpine
- One drop of 1% apraclonidine.

While attempting to break an angle closure attack, the clinician should check intraocular pressure (IOP) readings every 15 to 30 minutes. If the attack is not broken 1 hour after institution of treatment, oral hyperosmotics may be administered along with repeating all topical medications. When an attack is unbroken after 2 hours, the patient should have argon (or diode) laser gonioplasty. If the patient is still in angle closure 4 to 6 hours after initiation of treatment, emergency laser peripheral iridotomy (LPI) or surgical iridectomy should be attempted. When the IOP falls to 20 mm Hg or below, gonioscopy should be performed to confirm that the angle is open.

An acute attack of angle closure glaucoma should not be considered broken until the IOP has returned to normal levels, the pupil is miotic, and the angle is open. Low pressure is not, by itself, indicative of a broken attack. When the angle is not open, IOP will again rise to very high levels in hours to days. When the attack can be broken medically, the patient should be maintained on 2% pilocarpine four times a day bilaterally, and 1% prednisolone acetate four times daily in the affected eye until a LPI is performed. Most clinicians also keep the patient on a topical beta blocker twice a day in the affected eye. Miosis helps guard against reclosure; topical steroids reduce the inflammation associated with angle closure; and the beta blocker decreases aqueous production. It is customary to wait 2-7 days after breaking the attack before performing the LPI to allow resolution of the iris congestion and the anterior chamber response.

Follow-Up

Patients with primary ACG should not be considered cured even after successful LPI. Such patients should be considered glaucoma suspects for life and receive appropriate follow-up care. A summary of the frequency and composition of evaluations for patients with primary ACG in the following table:

Frequency and Composition of Evaluation and Management Visits for Primary ACG

Type of Patient	Frequency of Examination	Tonometry	Gonioscopy	Slit Lamp	Optic Nerve Assessment	Automate Perimetry	M P
Primary ACG suspect (new)	Every 3 to 4 months for 1 year	Yes	Critical for diagnosis; every visit	Evaluate for signs of prior angle closure attacks	Dilate with stereoscopic evaluation every visit; baseline photos	Baseline threshold central visual fields	D a s a a ri L
Primary ACG suspect (established)	Every 6 to 12 months	Yes	Every visit	Evaluate for signs of prior angle closure attacks	Dilate with stereoscopic evaluation every visit; repeat photos every 2 to 3 years	Repeat every 1 to 2 years	R a s a a
Primary ACG acute attack	Every 24 to 48 hours until LPI 1 wk after LPI 1 mo after LPI 2 mo after LPI 6 mo after LPI	Yes	Critical for diagnosis; if poor view due to corneal edema, evaluate fellow eye	Evaluate for signs of angle closure	May not be possible due to corneal edema; defer until attack is broken	Defer until attack is broken	B m L e fe L
Primary ACG acute attack (following LPI)	Every 6 months for 1 year, then annually	Yes	Every visit	Evaluate for patency of iridotomy	Dilate with stereoscopic evaluation every visit; repeat photos every 1 to 2 yrs	Repeat every 1 to 2 years	R

CLINICAL ALGORITHM(S)

An algorithm is provided for Optometric Management of the Patient with Acute Primary Angle Closure Glaucoma.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

The presentation of primary angle closure glaucoma varies greatly; therefore, the optometrist needs a broad understanding of the epidemiology, pathophysiology, and clinical manifestations of this challenging group of conditions. Prompt, appropriate diagnosis and aggressive treatment and management are necessary to prevent, or minimize, significant ocular morbidity in patients with primary angle closure glaucoma.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

Clinicians should not rely on this Clinical Guideline alone for patient care and management. Please refer to the references and other sources listed in the original guideline for a more detailed analysis and discussion of research and patient care information.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1994 (revised 1998; reviewed 2001)

GUIDELINE DEVELOPER(S)

American Optometric Association - Professional Association

SOURCE(S) OF FUNDING

Funding was provided by the Vision Service Plan (Rancho Cordova, California) and its subsidiary Altair Eyewear (Rancho Cordova, California)

GUIDELINE COMMITTEE

American Optometric Association Consensus Panel on Care of the Patient with Primary Angle Closure Glaucoma

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Members: Jimmy Jackson, O.D., M.S. (Principal Author); Leland W. Carr, III, O.D.; Barry M. Fisch, O.D.; Victor E. Malinovsky, O.D.; David K. Talley, O.D.

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

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GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the American Optometric Association Web site.

Print copies: Available from the American Optometric Association, 243 N. Lindbergh, Blvd., St. Louis, MO 63141-7881.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

The following is available:

- Answers to your questions about glaucoma. St. Louis, MO: American Optometric Association. (Patient information pamphet).

Print copies: Available from the American Optometric Association, 243 N. Lindbergh Blvd., St. Louis, MO 63141-7881; Web site, www.aoanet.org.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This summary was completed by ECRI on December 2, 1999. The information was verified by the guideline developer as of January 27, 2000.

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